

# CHAPTER 1 - GENERAL PROCEDURES

## 1.1 Introduction

This chapter explains the types of surface weather observations and prescribes practices for taking, reporting, and disseminating them. The differences between the transmitted coded report and entries made on the MF1M-10C are also presented.

## 1.2 Surface Aviation Weather Observing Stations

For meteorological observations, the location of the station is defined as the point or points at which the various elements of the observation are evaluated. In cases where all measurements are taken at approximately the same point, a station will be regarded as having a single location. In cases where various sensors are in different locations to obtain acceptable exposure, the station location will be regarded as varying with the individual elements in an observation. For example, at an airport the aviation weather reporting station may be at the following points.

- a. For visually observed elements such as clouds, prevailing visibility, weather, and obscurations, the station location might be immediately adjacent to the weather station office.
- b. For temperature, dew point, and wind, the station location might be the center of the runway complex.
- c. For cloud height and ceiling, the station location might be a point near the approach end of a runway.

Normally, multiple locations will be confined to an area within about 2 miles of the station. Weather reports may also contain information on phenomena occurring at other than the location of the station, such as clouds over mountains NW, lightning SE, showers W, etc. In such instances, the concept of multiple locations will not be extended to include points where the distant phenomena are occurring.

## 1.3 The Weather Observer

### 1.3.1 Certification of Observers

An observer must be certified by the National Weather Service (NWS) to take official surface weather observations. Observer certificates shall be available, on station, for review.

### 1.3.2 Observer Responsibility

In addition to taking and disseminating accurate, scheduled observations, the observer must report significant changes in weather conditions that could have an adverse effect on safe and efficient aviation operations. Observations should be taken and disseminated as rapidly and accurately as feasible to report these changes when they are observed.

The observer shall disseminate corrected reports immediately upon discovering an error, in accordance with the station's Weather Observing Handbook.

#### 1.4 Observation Form

Use the MF1M-10C to record the various elements of an observation. After all required data is entered, the completed form is archived as the record of surface observations for the station. Stations using the MF1M-10C shall prepare an original and at least one carbon copy. Copies must be legible and suitable for retention and duplication.

##### 1.4.1 Entries on Meteorological Form 1M-10C

Certified observers shall normally complete all entries on MF1M-10C. Non-certified trainees/observers may make entries on the form under the immediate supervision of a certified observer who assumes responsibility for the validity of the entries by initialing in Column 15. Non-certified observers may initial the observation, but the certified observer shall initial first. Initials shall be separated by a solidus (/).

##### 1.4.2 Preparing MF1M-10C

Prepare an original and at least one carbon copy of MF1M-10C. Data for more than 1 day may be entered on the same sheet, separating data for different days by a line containing the day, month, and year of the data which follow it. All dates and times on this form are UTC.

##### 1.4.3 Writing Instrument

The same type of writing instrument shall be used throughout the form. To ensure legible copies and ample contrast for reproduction, use a black-inked fine ballpoint pen.

##### 1.4.4 Correcting the MF1M-10C's

If you make a mistake on the form, correct the error with the same black ink used to record the observation. Whether the error was discovered before or after the dissemination of the observation, correct the erroneous data by clearly drawing a single line through the error. Do not erase or obliterate the entry by writing over it or by covering it up. Record the correct data in the appropriate blocks on the same or next line.

##### 1.4.5 Late Observations

When a record observation is taken late, but within 15 minutes of the standard time of observation, and no appreciable changes have occurred since the standard time, enter the observation in black and transmit it using the actual time of observation. If conditions have changed appreciably or the observation is more than 15 minutes late, skip a line and record and transmit a SPECI containing all the elements in a record observation. After transmitting the special, using the actual time of observation, estimate the conditions probable at the standard time using recording instruments whenever possible. Record the data on the skipped line using the standard time in Column 2. Do not transmit the observation. Make a note in Column 65 and reference the actual time of observation.

#### 1.4.6 Disposition of MF1M-10C Originals

Unless otherwise directed by the NWS Regional Headquarters, mail by the second working day of each month the original copies of the previous month's MF1M-10C to the office designated by the NWS Regional Headquarters for verification and archiving.

#### 1.4.7 Retention of MF1M-10C Carbon Copies

The corrected carbon copies of the MF1M-10Cs will be retained on station for 90 days. A longer on station retention of these copies may extend beyond the 90 day requirement if directed by the Regional Headquarters.

### 1.5 Definitions

#### 1.5.1 Coordinated Universal Time (UTC)

The time in the zero degree meridian time zone. The acronym “UTC” is derived from the French Universel Temps Coordonné.

#### 1.5.2 Local Standard Time (LST)

A time based on the geographic location of the station in one of the legally established time zones of the globe. This time is *never used in a transmitted report* and does not change during daylight savings time. Table 1-1 gives examples of converting LST to UTC.

#### 1.5.3 Standard Time of Observation

The hour to which a record observation applies.

#### 1.5.4 Actual Time of Observation

- a. For METARs, the time the last element of the report was observed or evaluated.
- b. For SPECI reports, the time the criteria for the SPECI was met or noted.

#### 1.5.5 Aircraft Mishap

An inclusive term to denote the occurrence of an aircraft accident or incident.

### 1.6 Time

All times refer to the 24-hour clock; e.g., 1:47 a.m. shall be referred to as 0147 and 1:47 p.m. as 1347. The times 0000 and 2359 indicate the beginning and ending of the day, respectively.

### 1.6.1 Time Standards

Times used in aviation weather observations are:

- a. Transmitted report, all times are in *UTC* (Coordinated Universal Time).
- b. On the MF1M-10C form time is either recorded *UTC* or *LST* (never in Local Daylight Time) depending on the program being conducted. SAWRS records all time in *UTC*. Other programs, NWS, A-Paid, etc., record times of observation, climatological data, and time checks in *LST*.

### 1.6.2 Accuracy of Time in Observations

The accuracy of the actual time of observation is of utmost importance in aviation safety investigations. One clock shall be designated as the station standard, and checked daily at part-time stations or on each shift at full-time stations. Log time check(s) in Column 65 of MF1M-10C. The clock used shall be within  $\pm 1$  minute of the U. S. Naval Observatory time.

## 1.7 Observing Practices

### 1.7.1 Order of Observing

Elements having the greatest rate of change are evaluated last. When conditions are relatively unchanging, *evaluate the elements in the following order:*

- a. Elements evaluated outdoors.
- b. Elements evaluated indoors, with *pressure last or altimeter setting*.

### 1.7.2 Recency of Observed Elements

Individual elements entered in an observation shall, as closely as possible, reflect conditions existing at the actual time of observation. Elements entered shall have been observed within 15 minutes of the actual time of observation. Gusts and squalls shall be reported if observed within 10 minutes of the actual time of observation. Routine observations shall be made as close to the scheduled time of the observation as possible to meet filing deadlines, but in no case shall these observations be started more than 15 minutes before the scheduled time (H+45).

### 1.7.3 Brightness Adaption

Allow enough time for your eyes to become adjusted to the ambient light conditions.

### 1.7.4 Rounding Figures

Except where otherwise designated, the rounding of numbers shall be accomplished as follows: If the fractional part of a positive number to be dropped is equal to or greater than one-half ( $1/2$ ), the preceding digit shall be increased by one. If the fractional part of a negative number to be dropped is greater than one-half ( $1/2$ ), the preceding digit shall be decreased algebraically by one. In all other cases, the preceding digit shall remain.

unchanged. For example, 1.5 becomes 2 (02), -1.5 becomes -1 (M01), 1.3 becomes 1 (01), -2.6 becomes -3 (M03).

An exception to this procedure is in reporting cloud heights and visibility. When the actual cloud height or visibility falls midway between two reportable values, report the lower of the two values.

Another exception to this procedure is in altimeter readings. The number shall be rounded down to the next reportable value. For example, an altimeter reading of 29.248 inches becomes 29.24 (truncate to the hundredth digit).

## 1.8 Aviation Weather Observations

These observations are taken by certified weather observers to report meteorological conditions. These observations are classified according to their purpose as designated in the following paragraphs.

### 1.8.1 Aviation Routine Weather Reports

The METAR is the primary observation code used in the United States to satisfy requirements for reporting surface meteorological data. The data are reported primarily in an alphanumeric code formatted for aviation users. A METAR contains a report of wind, visibility, weather phenomena, sky condition, temperature, dew point, and altimeter setting, collectively referred to as “the body of the report.” In addition, significant information elaborating on data reported in the body of the report may be appended to the report in a section referred to as “remarks.”

METARs are transmitted (disseminated) every hour between H+50 to H+55 with unscheduled observations (SPECI) transmitted (disseminated) when any of the criteria in Chapter 9 paragraph 9.2.1 occur. SAWRS 135 observers who do not take routine hourly observations will use the SPECI classification, but the content will be the same as a METAR.

### 1.8.2 Content and Format of the Manual METAR/SPECI

The following is an overview of the various elements in a METAR/SPECI report. Each element or group is separated by a space in a transmitted report.

#### a. Body of report.

- (1) Type of Report - **METAR** or **SPECI**
- (2) Station Identifier - **CCCC**
- (3) Date and Time of Report - **YYGGggZ**
- (4) Report Modifier - **COR**
- (5) Wind - **dddff(f)KT\_d<sub>n</sub>d<sub>n</sub>d<sub>n</sub>Vd<sub>x</sub>d<sub>x</sub>d<sub>x</sub>**
- (6) Visibility - **VVVVVSM**
- (7) Runway Visual Range - **RD<sub>R</sub>D<sub>R</sub>/V<sub>R</sub>V<sub>R</sub>V<sub>R</sub>FT** or  
**RD<sub>R</sub>D<sub>R</sub>/V<sub>N</sub>V<sub>N</sub>V<sub>N</sub>V<sub>N</sub>VV<sub>X</sub>V<sub>X</sub>V<sub>X</sub>FT**
- (8) Present Weather - **w'w'**
- (9) Sky Condition - **N<sub>s</sub>N<sub>s</sub>N<sub>s</sub>h<sub>s</sub>h<sub>s</sub>h<sub>s</sub>** or **VVh<sub>s</sub>h<sub>s</sub>h<sub>s</sub>** or **SKC**
- (10) Temperature and Dew Point - **T'T'/T'<sub>d</sub>T'<sub>d</sub>**

(11) Altimeter - **AP<sub>H</sub>P<sub>H</sub>P<sub>H</sub>P<sub>H</sub>**

b. Remarks Section of Report - **RMK**

(1) Manual and Plain Language

(2) Additive Data

1.8.3 Missing Data in METAR and SPECI

When an element does not occur, or cannot be observed, *the missing data or group is indicated by the absence of the element from that particular report*. This means that the corresponding column on the MF1M-10 is left blank. On the transmitted report *the corresponding group and preceding space is omitted from that particular report*.

1.8.4 Data That Is Never Estimated

While much of the data used in an aviation report can be estimated the following list of elements shall **NEVER BE ESTIMATED**:

a. Altimeter Setting

b. Temperature/Dew Point

c. Runway Visual Range

1.8.5 Type of Report - METAR/SPECI

There are two different types of reports:

The type of report is the first element of the coded report.

The type of report shall be **METAR** for a routine report and **SPECI** for a special report. Whenever SPECI criteria are met at the time of the routine METAR, the type of report shall be METAR. Transmitted reports shall always begin with either METAR or SPECI. They are entered as **M** or **S** in column 1 of MF1M-10.

1.8.6 Routine (METAR) Weather Observations

METARs are taken on an hourly basis, 15 minutes prior to the hour.

1.8.7 Special Observations

SPECIs are taken whenever mandatory criteria are met or observed (noted), and at the discretion of the observer, to report significant weather changes. SPECI reports shall contain all the data elements found in a METAR report (except single-element special) plus additional plain language information which elaborates on data in the body of the report. Unscheduled, non-hourly observations taken for SAWRS 135 operations will use this classification, but their content will be the same as a METAR. SPECIs are also taken when an aircraft accident or mishap occurs, and for any weather situation that in the opinion of the observer is critical to local operations.

There are two categories of criteria for taking SPECIs. The first is applicable to all stations across the United States. The second category of criteria for taking SPECIs are determined by you the observer. It allows you to take a SPECI observation to report any phenomena that in your opinion is operationally significant at your station. In making these SPECI reports there are no limits. Even if no provision is made for reporting a particular occurrence, take a SPECI and report the phenomenon even if it is necessary to use plain language in remarks.

### 1.9 Station Identifier - CCCC

The second element of the transmitted coded aviation weather report is the Station Identifier:  
This is entered on MFIM-10 in the Heading Block labeled **SID**.

The METAR/SPECI uses the International Civil Aviation Organization (ICAO) four letter station identifier. All airports in the 48 contiguous states begin with the letter “K” followed by the three letter identifier for the airport. Alaskan stations all begin with “PA” for Pacific-Alaskan, Hawaiian stations begin with “PH” for Pacific-Hawaiian. The “PA” or “PH” is followed by the international two letter identifier for that station.

Stations in the Eastern Caribbean begin with the letter “T”, Western Caribbean stations begin with the letter “M” and Guam stations begin with the letters “PG”.

Examples:	New Iberia, LA - KARA	Alexandria, LA - KAEX
	McCarthy, AK - PAMX	Anchorage, AK - PANC
	Nome, AK - PAOM	Honolulu, HI - PHNL
	Keahole Point, HI - PHKO	Whittier, AK - PAWR

### 1.10 Date/Time Group - YYGGggZ

The third element of the coded aviation weather observation is the Date/Time group.

**YY** - two digit date    **GG** - two digit hour    **gg** - two digit minutes    **Z** - letter indicator for UTC

In the METAR/SPECI, the day and time of observation is a six character field plus the letter “Z”. The first two digits “YY” are the day of the month and the last four digits “GGgg” are the time. The times entered are in reference to the 24-hour clock. The letter “Z” is added to the end of the group to indicate the day and time are in Coordinated Universal Time.

The date and time are included in all reports. The actual time of a METAR report is the time the last element of the observation was observed. The actual time of a SPECI report is when the criteria for a SPECI is met or noted (observed). If the report is a correction to a previous disseminated report, the time of the corrected report shall be the same time used in the report being corrected.

Examples:	An observation taken on the 23rd of the month at 1955 UTC METAR PAWR 231955Z
	An observation taken on the 1st of the month at 0550 UTC METAR KAEX 010550Z

An observation taken on the 10th of the month at 12:05 AM LST. The station's time conversion is +9

SPECI PAOM 100905Z

An observation taken on the 20th of the month at 4:35 PM LST. The station's time conversion is +10 hours

SPECI PHKO 210235Z

### 1.11 Report Modifier - **COR**

The Report Modifier falls between the "Date/Time" group and the "Wind" group when used. The only modifier for the report will be **COR**. **COR** indicates the report is a correction to a previously transmitted report. Corrections transmitted shall consist of the entire corrected report. The original date and time of the report shall be used as the date and time in the corrected report.

Example of a Transmitted Corrected Report:

METAR PAOM 011955Z COR 22015G25KT 3/4SM TSRA BR OVC010CB 18/16 A2992  
RMK FRQ LTGIC TS OHD MOV E

Corrections to a still valid observation should be given to everyone who received the erroneous data.

### 1.12 Dissemination

#### 1.12.1 Dissemination Definitions

**Local dissemination.** The transmission or delivery of a weather report to individuals or groups of users near the weather station.

**Long-line dissemination (also long-line transmission).** The transmission of a weather report by a communication media to a group of users on a regional or national scale.

#### 1.12.2 Dissemination Requirements

All reports should be given local dissemination. Sites which receive a terminal forecast from the NWS must also provide long-line dissemination of the report as coordinated with either the NWS or the FAA. When reports are corrected, the corrected reports are given the same dissemination as the report being corrected.

#### 1.12.3 Dissemination Priority

Reports should be given first to the positions which control local air traffic. Priorities for further dissemination may be established by observers and their supervisors in any order consistent with local and national requirements.

Reports that are not required to be transmitted, shall be posted and available for all other users within 10 minutes after the observation is taken, i.e., if the time appearing in the report is 0435Z, it shall be posted and available for all other users no later than 0445Z.



#### 1.12.4 Report Filing Time

SPECIs are completed and transmitted as soon as possible. METARs shall not be transmitted more than 10 minutes (H+50) before their scheduled time.

#### 1.12.5 Verification of Transmitted Data

Care should be taken to avoid the dissemination of incorrect data. Check your observation before dissemination and, where possible, immediately after transmission, compare the original observation with that disseminated, both locally and long-line.

#### 1.12.6 Corrections to Transmitted Data

Corrections (COR) should be disseminated as soon as possible whenever an error is detected in a transmitted report. However, *if the erroneous data has been corrected or superseded by a later report (with the same complete dissemination), do not transmit the corrected observation.* Corrections transmitted consist of the entire corrected observation. The actual time of the observation being corrected is used as the time of observation in the corrected report.

#### 1.13 Delayed Reports

- a. When transmission of an observation is delayed until time for the next regularly scheduled report, the remark ‘**FIBT**’ (Filed But Impractical to Transmit) is appended in parentheses to the report and is not included in any local dissemination of the observation. The reason for this is because only the latest observation shall be transmitted.
- b. When a SPECI is not transmitted long-line, the remark ‘**FIBT**’ (Filed But Impractical to Transmit) is appended in parentheses to the report. The SPECI is disseminated locally.
- c. Reports of a *Volcanic Eruption* are disseminated regardless of the delay. Use any reasonable means to disseminate the report.

#### 1.14 Unforeseen Requirements

No set of instructions can cover all possibilities in weather observing. Observers must use their own judgement, adhering as closely as possible to their station’s WSOH, to describe phenomena not adequately covered by specific instructions. For example, if you cannot find an authorized contraction to use in remarks of a report the only requirement is that the remark be clear.

#### 1.15 Differences Between Transmitted Coded Report and MF1M-10 Entries

When reviewing your station’s WSOH you should have noticed there are some differences between the transmitted coded report and entries made in the columns on MF1M-10 (See Exhibit 1-1). The coded report contains certain “letter indicators” to show the unit of measure used, time standard used or to separate “the body of the report” from the “remarks” section of the report, while such entries are not made on MF1M-10. This Guide will highlight where these differences exist in each element.

Failure to place the correct “letter indicator” in its proper location or to place a required space in the transmitted coded report may result in the report not being decoded properly. For example, the report will not be decoded if the “Z” is not placed after the date/time group. The observation will not make it into hourly roundups, etc.

TYPE <i>M/S</i>	TIME <input checked="" type="checkbox"/> <i>LST</i> <input type="checkbox"/> <i>UTC</i>	WIND				VISIBILITY			PRESENT WEATHER	SKY CONDITION	TEMP. (°C)	DEW POINT (°C)	ALTIMETER SETTING ( <i>Ins.</i> )	REMARKS AND SUPPLEMENTAL CODED DATA	TOTAL SKY COVER (0-8)	TEMP. DRY BULB (0.1°C)	TEMP. DRY BULB (0.1°C)
		DIREC- TION ( <i>Ture</i> )	SPEED ( <i>Knots</i> )	GUST ( <i>Knots</i> )	VARIABILITY ( <i>True</i> )	SUR- FACE	TOWER	RUNWAY VISUAL RANGE ( <i>Feet</i> )									
(1)	(2)	(3)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(17)	(19)	(20)
<b>M</b>	<b>0654</b>	<b>340</b>	<b>10</b>	<b>20</b>		<b>1/2</b>			<b>-SN BLSN</b>	<b>BKN003</b>	<b>-02</b>	<b>-05</b>	<b>2986</b>	<b>VIS NW 1/4</b>	<b>8</b>	<b>-2.1</b>	<b>-3.1</b>
										<b>OVC020</b>							

METAR PAEL 211554Z 34010G20KT 1/2SM -SN BLSN BKN003 OVC020 M02/M05 A2986 RMK VIS NW 1/4

The coded report contains certain “letter indicators” to show the unit of measure used, time standard used or to separate “the body of the report” from the “remarks” section of the report, while such entries are not made on MF1M-10C. The remark **FIBI** (Filed But Impractical to Transmit) is recorded in column 14 remarks in parentheses to indicate that the report was not transmitted. The remark FIBI is never transmitted.

#### **MF1M-10C Entries:**

A check mark must also be placed in one of the time standard boxes in column 2. The block to be checked depends on the observing program. An A-PAID is required to check the LST block, while a SAWRS will check the UTC block. Time of the observation in the transmitted report will always be in UTC (Z).

If additional space is needed when making entries in columns 9 (Present Weather), 10 (Sky Condition), or 14 (Remarks), the next line down under the same column is used to complete the entry.

STANDARD TIME ZONE	To Convert LST to UTC (+) Add	1200 LST Equals
Atlantic Standard Time	4 HOURS	$1200 + 4 = 1600$ UTC
Eastern Standard Time	5 HOURS	$1200 + 5 = 1700$ UTC
Central Standard Time	6 HOURS	$1200 + 6 = 1800$ UTC
Mountain Standard Time	7 HOURS	$1200 + 7 = 1900$ UTC
Pacific Standard Time	8 HOURS	$1200 + 8 = 2000$ UTC
Alaska Standard Time	9 HOURS	$1200 + 9 = 2100$ UTC
Hawaii Standard Time	10 HOURS	$1200 + 10 = 2200$ UTC

Table 1-1. Converting Local Standard Time (LST) to Coordinated Universal Time (UTC)

SURFACE WEATHER OBSERVATIONS (METAR/SPEC)										LAT/LONG		STATION		TIME		DATE		YEAR		STATION NAME	
										61° 12' N 149° 50' W		PAXX		A-PAID, ANY PLACE, AK							
TIME	DAY	MO	YR	HR	MIN	SEC	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	
TIME	DAY	MO	YR	HR	MIN	SEC	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	
M 0349	270	04					4														
M 0751	180	02					7														
M 0850	250	03					14														
M 0951	180	02					1/2														
M 1052	240	04					5/8														
S 1116	310	03					4														
M 1151	320	06					10														
M 1250	330	05					15														
M 1349	320	35	45				3														
M 1452	310	45	55	280	VOID		5/8														
M 1551	300	05					7														
M 1648	300	09					6														
M 1750	000	00					25														
16 APR 2000																					
M 0352	VRB	06					7														
M 0649	270	29	36				1														
M 0750	250	05					5/8														
M 0851	210	10					7														
M 0949	170	13					5														
M 1050	160	11					2 1/2														
M 1153	170	09					1 1/2														
M 1250	160	05					1/2														
M 1351	170	04					1/2														
M 1449	190	15	25				2														
M 1550	230	14					7														
M 1751	260	17	24				7														
M 1952	310	24	35	280	V340		1														
17 APR 2000																					
ACFT MSHAP NOTIFIED BY FAA 15/1110 / ALSTG: INST #1 2996 INST #2 2995 DIFF: 01 15/1245 / COMMUNICATIONS DOWN 15/1510 -1625/ ALSTG: INST #1 2994 INST #2 2993 DIFF: 01 16/1435 / STATION CLOSED 17 APR 2000 NO OBSERVATIONS TAKEN FAA NOTIFIED 16/1610																					

Examples of Entries on MF1M-10C



## REVIEW QUESTIONS

1. The time of observation used in a transmitted report is in:
  - a. UTC.
  - b. LST.
  - c. LDT.
  - d. GNT.
2. If you discover an error in column 9 after you have given the observation to the tower, you should correct the error by:
  - a. erasing the erroneous entry and enter the correct data in red,
  - b. erasing the erroneous entry and enter the correct data in black,
  - c. drawing a line through the erroneous entry and enter the correct data in red, or
  - d. drawing a line through the erroneous entry and enter the correct data in black.
3. The primary observation code to be used in the U.S. to satisfy requirements for reporting surface meteorological data is:
  - a. METAR
  - b. SPECI
  - c. SAWRS
  - d. synoptic
4. When conditions are relatively unchanged, which element will determine the time of a METAR.
  - a. Sky Condition
  - b. Visibility
  - c. Altimeter Setting
  - d. Temperature
5. A METAR observation contains \_\_\_\_\_ section(s), \_\_\_\_\_.
  - a. 1, the body of the report
  - b. 1, the remarks
  - c. 2, the body of the report and the remarks
  - d. 3, the time, the data, and the remarks
6. Regardless of the delay, observations containing which of the following elements shall be disseminated?
  - a. volcanic eruptions
  - b. tornadoes
  - c. thunderstorms
  - d. blizzards

## REVIEW QUESTIONS

7. If SPECI criteria are met or observed at the time a METAR observation is due, it shall be coded as:
  - a. METAR
  - b. SPECI
  - c. RSPECI
  - d. RS
8. The station identifier is the \_\_\_\_\_ element in a METAR/SPECI coded report.
  - a. first
  - b. second
  - c. third
  - d. sixth
9. Which of the following elements can not be estimated?
  - a. Sky Condition
  - b. Wind
  - c. Temperature
  - d. Present Weather
10. The ICAO identifier uses \_\_\_\_\_ letters.
  - a. three
  - b. five
  - c. two
  - d. four
11. An observation is taken on the 7<sup>TH</sup> of the month at 3:50 a.m. LST. The station's time conversion is +6. How would this be coded for transmission?
  - a. 070950Z
  - b. 082150Z
  - c. 070350Z
  - d. 062150Z
12. Which report will include the Date and Time group?
  - a. METAR
  - b. SPECI
  - c. SA
  - d. both METAR and SPECI
13. In a METAR report, the time of the Date/Time group will be:
  - a. the time the observation is disseminated
  - b. 15 minutes before the hour
  - c. time the last element is observed
  - d. when criteria is met or noted



## REVIEW QUESTIONS

14. A SPECI observation contains \_\_\_\_\_ section(s), \_\_\_\_\_.
- 1, the body of the report
  - 1, the remarks
  - 3, the time, the data, and the remarks
  - 2, the body of the report and the remarks
15. In a SPECI report, the time of the Date/Time group will be:
- the time the observation is disseminated
  - the time the last element is observed
  - when the criteria for a SPECI is met or noted
  - 5 minutes before the event was noticed
16. Which time will be used for the Date/Time group if the report is a corrected one?
- same time used in the report being corrected
  - time when the error was noticed
  - time when the last element was entered on the corrected report
  - time of the next METAR or SPECI report
17. In a manual observation, what is the only report modifier used?
- AUTO
  - RMK
  - TMP
  - COR
18. Corrected reports are not transmitted if they are:
- more than 15 minutes old
  - superseded by a later report
  - recorded locally
  - only minor corrections
19. People authorized to take weather observations:
- need no training or certification
  - must have training but not certification
  - must be certified by the National Weather Service
  - are not paid
20. If an element does not occur or cannot be observed, it is:
- marked missing
  - estimated
  - omitted from the report
  - added from complementary data

## REVIEW QUESTIONS

21. When the prevailing visibility is exactly halfway between two reportable values, you should select the
- a. lower value only if the values are greater than 3 statute miles
  - b. lower value
  - c. higher value
  - d. higher value only if the values are greater than 3 statute miles
22. When conditions are relatively unchanging, the order of evaluating elements is
- a. outdoor, indoor, pressure
  - b. clouds, pressure, wet bulb
  - c. liquid, freezing, frozen, obstruction to vision
  - d. outdoors within 15 minutes, indoors within 10 minutes of scheduled time
23. An altimeter reading of 29.248 inches would be rounded to:
- a. 29.25
  - b. 29.248
  - c. 29.24
  - d. 29.20
24. When computations require the disposal of decimals of negative numbers, and the decimal to be disposed of is five, the preceding digit will
- a. be increased by one.
  - b. remain unchanged.
  - c. remain unchanged if that digit is even.
  - d. remain unchanged if that digit is odd.
25. When the height of a cloud base falls half way between 2 reportable values the \_\_\_\_\_ value shall be reported.
- a. lower
  - b. average
  - c. highest
  - d. not reported if greater than 3000 feet
26. Elements included in an observation must have been observed within \_\_\_\_\_ minutes of the actual time of the observation.
- a. 5
  - b. 15
  - c. 20
  - d. 30

## REVIEW QUESTIONS

27. What remark is appended to the report to indicate the observation was not transmitted long-line?
- a. SPECI
  - b. FIBI
  - c. NOSPECI
  - d. LAST
28. An observation is taken on the 24<sup>TH</sup> of the month at 5:52 p.m. LST. The station's time conversion is +8. How would this be coded for transmission?
- a. 240552Z
  - b. 251752Z
  - c. 250152Z
  - d. 240152Z
29. When very little changes occur to weather conditions, which element will be evaluated last?
- a. Sky Condition
  - b. Wind
  - c. Temperature
  - d. Altimeter Setting
30. Which of the following elements can be estimated?
- a. Sky Condition
  - b. Temperature
  - c. Runway Visual Range
  - d. Altimeter Setting
31. Which of the following temperatures were rounded correctly?
- a. 1.5 = 01
  - b. -1.5 = -01
  - c. -2.6 = -02
  - d. -2.4 = -03

